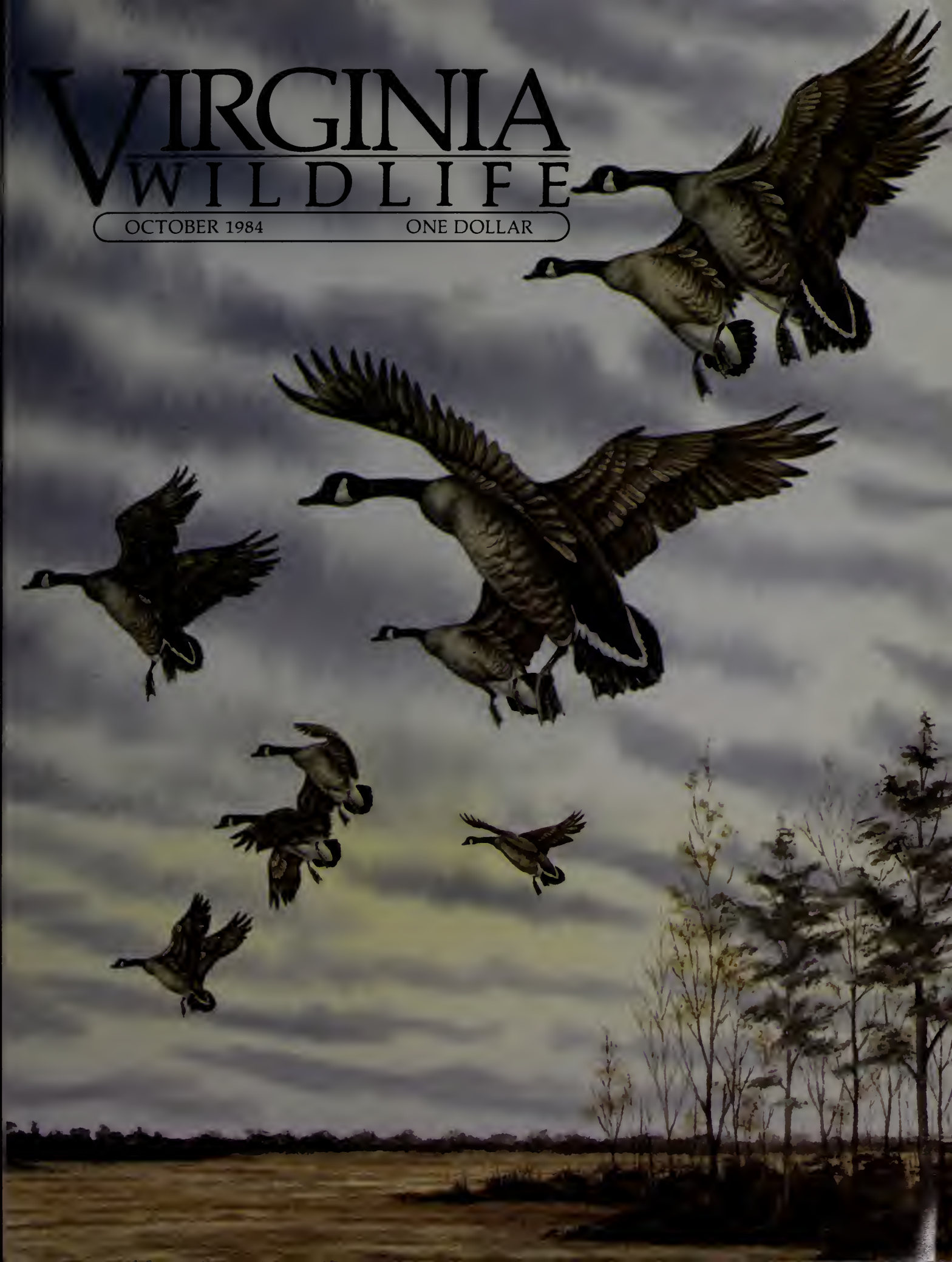


VIRGINIA WILDLIFE

OCTOBER 1984

ONE DOLLAR



VIRGINIA WILDLIFE

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Features

- 3 **Back Bay Waterfowling** *by Bob Gooch*
*You don't have to be heir to a duck blind to enjoy good hunt-
ing at Back Bay*
- 7 **A Different Kind of Rabbit** *by Mike Fies*
*No, it's not the eastern cottontail—it's a "Yankee"—the New
England cottontail*
- 10 **Field Trips: A Leader's Manual** *by Susan Gilley*
*Leading field trips does not have to be reserved for the
"experts"—but there are some things you should keep in mind*
- 14 **The Ridiculous Woodcock** *by W. Hassell Taylor*
*The woodcock might look foolish at times, but not as foolish as
the hunters it foils*
- 17 **Light Up the Marsh With Color**
by Curtis J. Badger
*Yes, Virginia, the saltmarsh is a colorful place at this time of
year, as these photos show*
- 21 **Hunt a Wildlife Management Area**
by Bob Gooch
Public hunting lands are alive and well in the Old Dominion
- 25 **One-on-One With Fall Trout**
by Harry W. Murray
*They're bigger and smarter in autumn, and they're not neces-
sarily where you left them last spring*
- 29 **October Journal**
This season's dates have been set for waterfowl hunting
- 34 **Bird of the Month** *by John W. Taylor*
The Great Egret

Cover

Canada geese by Kathryn Walters Ritchie, Aylett. Waterfowling at Back Bay is high-
lighted by Bob Gooch in our lead story.
Back cover: photograph by Harry W. Murray, Edinburg. Fall trout fishing in Virginia
is an aesthetic experience, as this photo shows. Murray's tips begin on page 25.



Mallards are common at Back Bay.

Back Bay Waterfowling

*There's no better place to hunt
ducks and geese in Virginia, and even if you
aren't heir to a blind, there are plenty of opportunities.*

story and photos by Bob Gooch

“Swans!” cautioned Tom Blanton as Jim and I lowered our guns.

The big white birds had appeared suddenly out of the fog, and anxious for some action, we had started to swing on them. But even as Tom spoke we recognized them as illegal birds. Blanton is a veteran Back Bay waterfowler who guides many inexperienced hunters on the big body of brackish water near the Virginia coast. He takes no chances on his clients shooting the protected birds.

“Shoot one and it will cost you \$500,” he added.

The swan is one of two protected birds that use Back Bay, the other being the canvasback duck. Canvasbacks are now legal throughout most of Virginia, but not at Back Bay or the ocean side of the Eastern Shore.

But swans and canvasbacks are not the only waterfowl on the broad expanse of water in the resort city of Virginia Beach. In fact, just about every species of duck and goose known to the Atlantic Flyway visits the popular waterfowling area during the course of a long season that runs in three segments from early October to mid-January.

Over the years that I have hunted Back Bay, I have probably bagged more gadwall than any other single species, but there have been countless black ducks, mallards, pintails, ruddy ducks, shovelers, teal, wigeon, and a few redheads. There have also been some mergansers, and a few buffleheads, goldeneyes, old squaw, and scaup.

Snow geese, protected for years, are now legal and abundant, and I have yet to visit Back Bay and not see some big Canada geese.

That’s one of the joys of hunting Back Bay. You never know what might appear next over your blind.

Back Bay, 25,000 acres of brackish water in the southeastern corner of the state, is Virginia’s most popular and productive waterfowling area. Duck and goose hunting here goes back to the early days of America. The

bay’s shallow waters have witnessed the full spectrum of waterfowling in America—the colorful era of market hunting, the days of the plush hunting clubs visited by wealthy sportsmen, and the modern era when public hunting blinds lure hunters from all walks of life.

Though separated from the stormy Atlantic ocean by just a narrow strip of sand that begins with the resort beach at Sandbridge to run across the Virginia-North Carolina line, Back Bay is not subject to lunar tides as is Currituck Sound to the south. The water is shallow, averaging only three to four feet. It is also basically fresh, but the City of Virginia Beach pumps in ocean water to maintain a degree of salinity. This is necessary to support the rich marine vegetation so important to waterfowl and the largemouth bass the bay is also noted for.

Back Bay waterfowling has its peaks and valleys. The 1982-83 season, for example, was not a good one. The winter was unseasonably mild, not only in Virginia, but also in the more northern reaches of the Atlantic Flyway, and the migrations the bay depends upon for its waterfowl never developed. But that was an exceptional year. Usually you can expect some bitter cold weather, and when it comes the shooting can be fabulous. Some friends and I waited one cold January dawn while a Commission of Game and Inland Fisheries boat broke a path through the ice to the blind we had been assigned. Our hunting was delayed a couple of hours that frigid morning, but when we did reach our blind, the shooting was almost unreal. Most of the marshes were frozen, forcing the birds to patches of open water, one of which was before our blind.

There are other days, however, balmy days when the temperatures soar into the 70’s—even in January. Blue bird days. The influence of the nearby ocean on the weather can be dramatic.

The plush hunting clubs of the dawn of this century



Canada geese over Back Bay.

have faded from Back Bay, but its broad waters are dotted with private blinds. Some have been in families for years and handed down from one generation to the next. One becomes available occasionally, but there is always a long line of applicants.

Many of the private blinds are available on a rental basis, and some are owned or leased by waterfowl guides for use by their clients. Back Bay Ventures, owned and managed by Jim Clark and Tom Blanton, 3249 Colechester Road, Virginia Beach, Virginia 23456, telephone 804/426-5393, offers guides and blinds. Other guides in the area work on a part-time basis. Local game wardens can usually direct you to a guide.

Much of the Back Bay hunting, however, is done at a trio of waterfowl management areas owned and managed by the Virginia Commission of Game and Inland Fisheries. Collectively, they offer hunting packages that range from inexpensive do-it-yourself hunts to fully guided ones.

The guided hunts are in the Pocahontas Waterfowl Management Area located on the marshland island known as Pocahontas Marsh in the southwestern corner of Back Bay. It is approximately a mile north of the North Carolina line and near the western shore of the bay. Hunters meet their guides at the Trojan Waterfowl Management Area Headquarters at the end of Back Bay Landing Road off of Secondary Route 615 in Virginia Beach. The blinds are approximately two miles by boat from the Trojan boat ramp.

When you hunt Pocahontas you furnish only your gun and ammunition. The guides, employed for the season by the Commission, furnish boats, motors, and decoys, and retrieve the downed birds. Dogs are not allowed. The blinds will accommodate up to three hunters for which the fee is \$75 for the party.

While I normally wear hip boots or waders when hunting the Pocahontas area, they are not really neces-

sary as the blinds are well above the water, and the guide handles the chores that would expose your feet to the water.

Hunting here ends at 4 p.m.

Barbours Hill Waterfowl Management Area is also a popular one, but it is located across the bay from the Trojan area, and approximately halfway between Sandbridge and the North Carolina line. To reach it you have to pass through the Back Bay National Wildlife Refuge and part of False Cape State Park where hunting is prohibited. A Commission truck picks you up at the Little Island Coast Guard Station Recreation Area just south of Sandbridge beach at 5 a.m. You are delivered to your assigned blind and picked up at 2 p.m. when hunting ends.

While the Barbours Hill hunts are not guided, you are furnished a blind, decoys and a boat for placing the decoys and recovering game. You run your own hunt, but the fee is only \$15 for the blind which will accommodate a pair of hunters.

If you choose to hunt the Barbours Hill Area, by all means wear hip boots or waders. The water around the blinds is very shallow, and wading to place and recover the decoys and retrieve game is simpler and less disturbing than using the boat. I have hunted this area often, but never used the assigned boat. That is the experience of most Barbours Hill hunters. All of the blinds are on shore and you don't need a boat to reach them.

Unfortunately, dogs are not allowed at Barbours Hill where they would be a real asset.

Incidentally, your gun must be cased while passing through the national wildlife refuge, so don't forget to take a case along.

Hunters are assigned to blinds on the basis of a drawing held in October. To enter you must secure applications from the Virginia Commission of Game and Inland Fisheries, Box 11104, 4010 West Broad Street, Rich-



Tom Blanton works his duck call as Jim Hallissy waits expectantly.

mond, Virginia 23230-1104, telephone 804 257/1000, and file by early October. The applications are available soon after the seasons are set in late August. The application must contain your current Virginia hunting license number, resident or non-resident.

Suppose you apply and your name is not drawn. It happens often as the number of applicants far exceeds the available blinds. But don't despair. There is still a good chance you can hunt Back Bay.

One possibility is a cancellation. This happens fairly frequently at Barbours Hill, but less often at Pocahontas. A call to Area Manager Otto Halstead (804/426-6320) will bring you up-to-date on cancellations, but Halstead may not know of one until the last minute when someone doesn't show. Hunters do show up at the Trojan headquarters or the Barbours Hill pickup point and luck into openings—but this is risky unless you live nearby or are in the area for other reasons. Still, many hunters enjoy some fine Back Bay waterfowling by taking this chance.

And there is always the Trojan Waterfowl Management Area where blinds are assigned on a first-come, first-served basis. You are completely on your own here. The Commission furnishes a shore blind for which you pay \$5 to hunt until 2 p.m. You supply your own boat and motor, decoys, and whatever else you feel is necessary. Dogs are allowed, however, and this makes the area popular for hunters who like to work their retrievers. The Trojan blinds are big and roomy and they will accommodate three hunters. They are located along the shoreline adjacent to the Trojan Wildlife Management Area headquarters, and it is a short run from the launching area to the blinds. You usually leave before daylight, and running lights are required.

The Trojan blinds can be your ace in the hole. Get there early in hopes of getting a cancellation which could be your ticket to a luxury hunt in the Pocahontas area, but fall back on Trojan if that fails. Usually there are open blinds in the Trojan area, particularly during the week.

Over the years I have found the Pocahontas area the most productive. Possibly it is because it is well out from the shore, or perhaps the experienced guides, experts at placing dekes and calling, are the difference. From Pocahontas blinds I have bagged just about every species of duck and goose that uses Back Bay, but no particular species stands out, unless it is the gadwall. Bag limits are common to Pocahontas during the better seasons.

I have also enjoyed some good days in the Barbours Hill area. It is the best area for snow geese that seem to spend the long winter nights in nearby Back Bay National Wildlife Area. They present a thrilling spectacle at dawn as, by the thousands, they lift off of the waters of the refuge. Many pass within shotgun range of the Barbours Hill blinds.

Barbours Hill is also a good area for the little buffleheads that skim the water before your blind, offering some challenging shooting. Many hunters pass them up because they are not a particularly good table duck.

I have not hunted the Trojan Waterfowl Management Area enough to really comment on the quality of the shooting. Generally, however, it is a cut or two below the other two areas. Under the right conditions the hunting can be good, but it is not consistently good.

The Pocahontas Waterfowl Management Area claims 790 acres of big Back Bay and the Trojan area another 352. The Barbours Hill Waterfowl Management Area is actually a part of False Cape State Park, but open to waterfowl hunters under an agreement with the Virginia Division of Parks.

Back Bay is big, but the hunting, unfortunately, is tightly controlled. Still, there are over 300 private blinds that claim most of the huntable water, and the Commission of Game and Inland Fisheries opens 15 additional ones each day, five on each of the three public hunting areas. There is plenty of good waterfowling available.

Between the public blinds and those owned or leased by professional waterfowl guides, you should be able to find a productive blind from which to participate in this rich waterfowl harvest. □



A successful Back Bay hunter retrieves a snow goose.



The eastern cottontail (above) is slightly larger than the New England cottontail, and has longer ears.

A Different Kind of Rabbit

Virginians are familiar with the eastern cottontail, but few realize that we have another rabbit here: the New England cottontail.

by Mike Fies
photos by Dennis Martin

When you think of the mountains, you usually don't think of rabbits. Rabbits are the little animals that you see hopping around in your yard or hiding in your flower bushes. During the summer, they seem to be everywhere. Young rabbits instantly appear as if they fell out of the sky. They are in the fields, along the roads and in your garden. Occasionally you see one in the woods, but it doesn't happen very often. It's not because the rabbits aren't there, it's because they are a different kind of rabbit.

Very few people realize that there are two species of rabbits in the mountains of Virginia. There is the eastern cottontail (*Sylvilagus floridanus*) and the New England cottontail (*Sylvilagus transitionalis*). The eastern cottontail is by far the most common, living almost anywhere there is food and a place to hide. The New England cottontail is relatively uncommon and is found only in the mountains. In fact, this northern rabbit is so secretive, it is seldom seen. The vast majority of rabbits that a person is likely to encounter in his lifetime will be eastern cottontails.

Rabbits, in general, are very popular game animals. With the exception of the squirrel, there are more cottontails harvested by hunters than any other game species in Virginia. It has been estimated that over a million rabbits are taken every year. This means that Virginia hunters bring home about two million pounds of rabbit meat annually.

Relatively few of these animals are New England cottontails. Wildlife biologists estimate that this species represents less than one percent of the total rabbit harvest. That's because New England cottontails live in areas that are difficult to hunt and their distribution is so limited. They are confined to the higher elevations of the Allegheny and Blue Ridge Mountains in habitats that are more typical of northern forests. More often than not, they are associated with small openings near hemlock, rhododendron, or mountain laurel. Not many people would think to hunt rabbits in this type of country.

At first glance, the eastern and New England cottontail would appear to be the same animal. Upon closer examination, however, even the untrained eye can detect differences. The eastern cottontail is larger, has longer ears and often has a white spot on its forehead. In contrast, the New

England cottontail is a small rabbit with short ears and often has a black spot on its head. Several more obvious differences can be seen when comparing the skulls of the two animals.

Based on physical differences alone, one may question whether these rabbits deserve to be treated as separate species. A rabbit is a rabbit, you might say. But researchers who have studied the genetics of these animals would strongly disagree. Geneticists have found that New England cottontails have 52 chromosomes while the eastern cottontail has only 42. They have also discovered some major differences in the structure of these chromosomes. Apparently, these differences represent conclusive evidence that the New England cottontail is a valid and separate species.

Even though they are different species, the eastern and New England cottontail are known to interbreed. The offspring that result from these matings usually have some features that are characteristic of each species. Although the frequency of natural hybridization is unknown, it is suspected to be very low. Differences in behavior probably limit the amount of interbreeding that occurs naturally.

To some extent, differences in habitat preference may also play a role in limiting hybridization. New England cottontails seem to prefer cooler climates, possibly because they are better adapted to them. In fact, researchers in Maryland have studied this idea by weighing the adrenal glands (small organs situated directly above the kidneys) of captured rabbits at different times of the year. Adrenal weights are used by scientists as an index of stress. Animals with low adrenal weights are believed to be under less stress than those with higher adrenal weights. When the results of the study were compiled, researchers found that New England cottontails were under less stress in the winter than they were at any other time of the year. Eastern cottontails, on the other hand, were under maximum stress during the winter period. From this, researchers have concluded that the New England cottontail is better suited for colder temperatures and is capable of inhabiting areas that may be unsuited for eastern cottontails.

The breeding season is a stressful period for both species. Breeding takes place from late February to



Typical habitat of the New England cottontail: this species prefers the higher elevations such as this site in Augusta County, Elliott Knob.



Comparison of the skulls of the eastern (left) and New England (right) cottontails reveals several differences: the nasal sutures (where the bones above the nose are fused) are jagged on the New England and smooth on the eastern; the eastern has a distinct notch in front of the eye socket which is reduced or absent on the New England species; a structure behind the eye socket of the eastern cottontail is thick and partially attached to the skull, while in the New England, this structure is thinner and tapers to a point.

early September and peaks between March and July. The onset of breeding is largely determined by photoperiod (day length) and temperature. These factors affect the availability of

succulent green foods that are especially important for young rabbits. Among rabbits of the same species, breeding tends to get started earlier at the lower elevations than it does at

the higher elevations. Severe weather has also been shown to delay breeding.

When the two species are compared, the New England cottontail tends to breed earlier and longer than eastern cottontails. At first, this would seem to indicate that the New England cottontails should produce more young. This is not the case, however, because the eastern cottontail has larger litters, averaging around five young. The average litter size of the New England cottontail is three to four young. Overall, the productivity of the two species works out to be about the same. Approximately 23 young rabbits are produced every year for each adult female. Under normal conditions, only 10 of these young will be around by the time hunting season begins.

What happens to all these rabbits? Well, nature instantly puts a number of population control measures into effect. For example, spring weather is believed to influence the survival of first litters. Since rabbits nest in depressions, young can easily be drowned by heavy rains. They can also be buried by snow. Mortality of early-born young can be especially important, since these rabbits represent those most likely to be first-year breeders. Predators also take their toll. Foxes, cats, raccoons, weasels, snakes and many birds of prey have been reported to be the primary causes of death in some cottontail populations. Disease can also be important, especially in areas with high rabbit densities.

Some scientists believe that rabbit populations fluctuate in cycles. They suggest that high populations occur every 9 or 10 years. But this pattern will not hold true in areas where land use is changing. In fact, the loss of farmland and other suitable habitats are much more important in determining rabbit population levels in Virginia than a natural cycle. Cyclic fluctuations, if they occur at all, are most likely to be characteristic of natural and undisturbed ecosystems.

Cycles or no cycles, some biologists believe that the New England cottontail is in trouble. They suspect that populations are declining and that the species should be considered "threatened" or "endangered." In some of the northern states, scientists have documented drastic declines in the native New England cottontail population. At the same time, eastern cot-

tontail numbers have increased. Apparently, the eastern cottontail is more aggressive and is better able to compete for available resources in these areas. Many of the habitats that were once considered New England cottontail habitat are now occupied by eastern cottontails.

What caused this rapid decline of New England cottontails? Although no one is sure, most will agree that the problem probably started in the 1920's and 30's. Wildlife agencies in some states were concerned with an apparent overall decline in rabbit populations and they decided to import rabbits on a large scale. Eastern cottontails of several subspecies were brought in by the truckload from the Midwest and were released throughout New England, Pennsylvania, Maryland and West Virginia. The introduced rabbits bred freely with the native subspecies of eastern cottontails, the result being an "intergrade" rabbit that was fundamentally different from the original subspecies. These intergrade rabbits were able to colonize areas that were previously unsuitable for eastern cottontails, and have been able to adapt to changing environmental conditions. The New England cottontails did not interbreed with the introduced rabbits and are in the process of being replaced by the intergrades in many areas.

Even though the forecast is bleak in New England, there is room for optimism in this state. Records indicate that very few rabbits have been introduced in Virginia from other states. The few scattered introductions that have been made are a result of private hunt clubs stocking small numbers of rabbits on their own property. Today this practice is discouraged and requires a special permit. As a result, Virginia is one of the few remaining eastern states that still has a natural distribution of cottontails.

This does not mean that the New England cottontail is common in Virginia. In fact, the status of the New England cottontail in Virginia can best be described as "undetermined." The rabbit is so secretive and difficult to identify that not many people have tried to study it. Last summer, biologists with the Virginia Game Commission recognized a need for research in this area and initiated a pilot study. Their objectives were to determine the distribution and status

of the New England cottontail in Virginia. Preliminary results have just recently been compiled and the research is continuing.

The study really began last hunting season as a cooperative effort between the Game Commission and the sportsmen of Virginia. Hunters in 15 different counties donated the heads of 139 rabbits that were killed above 2,000 feet in elevation. Keep in mind that New England cottontail habitat is found almost exclusively at the higher elevations. Research biologists then cleaned the skulls and identified each specimen.

Of the 139 skulls collected, 50 were identified as New England cottontails. They were collected at elevations ranging from 2,150 to 4,400 feet in nine of the 15 counties where collections were made. According to all available sources, these are the first recorded specimens of this rabbit in six of these counties. First records were obtained for Amherst, Nelson, Scott, Smyth, Tazewell, and Washington Counties. It is likely that the rabbits have always been there, but no one bothered to look. It's also very likely that New England cottontails are found in some of the counties from which we did not get samples.

What does all this mean? For one thing, we can say that we still have New England cottontails in Virginia. We can also say that they appear to be present in many counties where one might expect to find them. Prior to this study, there was some speculation whether New England cottontails were still found in the Blue Ridge Mountains. The New England cottontail samples that were received from Amherst and Nelson Counties answered this question.

Until we have received more samples, we cannot make any definite conclusions about the status of the New England cottontail in Virginia. For this reason, the Game Commission is continuing this study and is still asking hunters to donate the heads of rabbits killed at elevations above 2,000 feet. (You can determine the elevations of your favorite hunting areas from topographic maps.) If you wish to participate, contact your local game warden or wildlife biologist.

Our preliminary results are encouraging, but we still need more information. With your help, we can unravel some of the mystery surrounding this secretive game animal. □



You don't have to be a wildlife education specialist like Susan Gilley (top photo) to lead a successful field trip. But you do have to be observant and be prepared. Plan carefully where you'll go and what equipment you'll need: magnifying glasses are a good addition to any trip.

Field Trips:

A Leader's Manual

*by Susan Gilley
photos by F.N. Satterlee*



You don't have to be an "expert" to lead a group on a field trip. Just be sure to do your homework.



Professionals in the conservation field have long known that a key element in gaining widespread public support for their programs and principles is *awareness*. Sophisticated public relations theories aside, the first step in molding or swaying opinion is to teach people what's going on; an appreciation for and commitment to "conservation," per se, will follow.

We also know that one of the best places to employ this idea is with young people. Wildlife professionals are not the only ones doing this job: parents, teachers, scout leaders, youth group advisors, camp counselors—all can and do play a vital role in conservation education. And all of us who care about our natural resources know that the survival of those resources depends on our getting today's youth "on the bandwagon."

A relatively simple—and *fun*—way to do this is through a field trip. Field trips can take place just about anywhere: woods and forests, seashores, parks, schoolyards, or even vacant lots. It's a challenging experience for the leader, and a rewarding experience for everyone involved. Why not plan a field trip for your club, class, troop or the neighborhood kids?

As with most things, there's more than one way to plan and execute a field trip. Tailor the following suggestions to your locale, your "audience," and your purposes.

Of course, planning anything means deciding what your goals and objectives are. Think about what you want to accomplish by taking the field trip, and decide how you will go about doing that. You may want to help the participants become aware of the wide variety of living things in a particular area; or perhaps your goal is the completion of merit badge requirements or a course of study—a unit on birds, for example.

Consider the group you're working with: it may be necessary to go through certain official "channels" before doing any further planning.

Find out if there are specific requirements such as a particular ratio of adults to children, permission slips from parents, insurance considerations, etc. As with any outdoor activity, safety should be of primary concern: a first aid kit, and someone qualified to administer first aid, are valuable and may well be required, depending on the group you're taking. Don't underestimate the number of adults you'll need to help you, especially if there will be young children along. Are permits required to do what you have planned? (If you will be collecting specimens of any kind, you will probably need permits.)

Another element of your preliminary planning is equipment needs. Where are you going? What will you need when you get there? If you're taking a trip to a pond to collect aquatic insects, set up aquariums before the trip, and take nets, buckets and aerators. If you will be birdwatching, you'll need binoculars and field guides. Will you need microscopes for viewing specimens when you return? Will you be out long enough to need lunches that require coolers and ice? Always take a water supply along, too; obtain canteens or some other containers for this. Is any special clothing required for the location you're using—waders, pfd's, etc.? Take a "mental field trip" as you plan, and anticipate what you'll need.

But don't stop there: you should take a real field trip to the selected area before you lead your young charges there. This will acquaint you with the area itself and what it has to offer, and will also save time later since you'll already know it and where there are restrooms, picnic

tables, water fountains and so forth. If there is an interpreter or guide at the area you're using, you should meet with her or him in advance to discuss the number of children who will be there, their ages, your time restrictions, and what you hope to accomplish with the field trip. If the trip fulfills requirements for a badge or a school course, it's helpful if you provide the guide with a copy of the activity list or other printed information that the children are using. As a courtesy to your guide, do not make last-minute changes in the program, the number of children, etc. She/he has no doubt put in a good deal of time planning for your group.

Another advantage to checking out the area in advance is that you'll know just how far it is to that stream where you plan to find crayfish—or if there are even any crayfish in it. It will help you plan how much time to allot for each activity, how long it takes to walk from Point A to Point B (which will, of course, be longer with kids in tow than when you are alone), you'll see any obstacles or areas that will be tricky to navigate, and so forth.

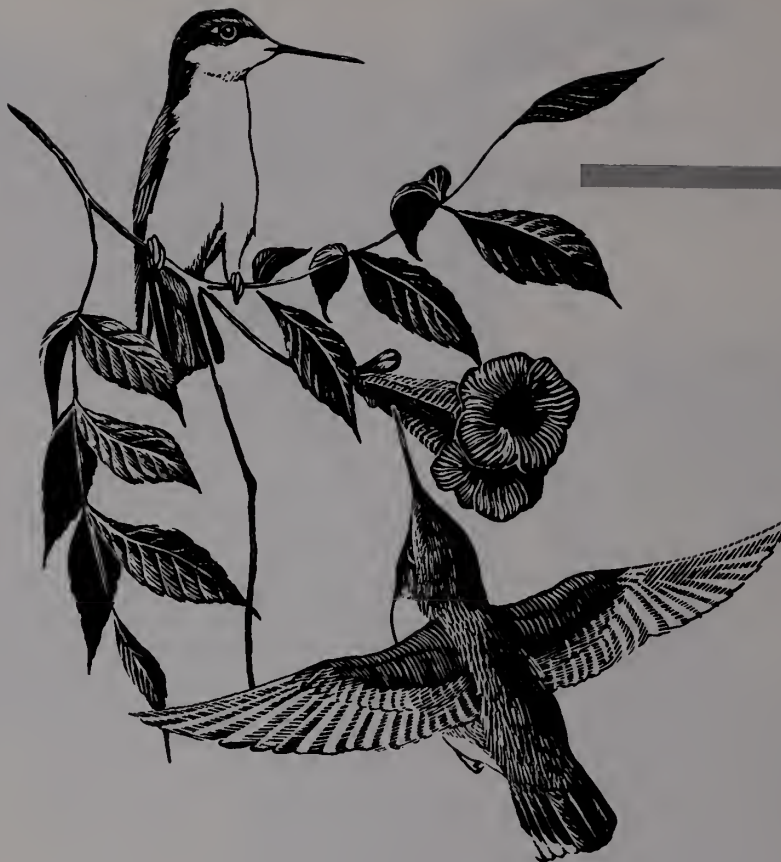
And, of course, you'll see things when you're alone that you will not notice when you have a class of 30 along. Although that woodpecker you saw when you were on your own, that you watched feeding insects to its young, won't be around when you return with the group, you can point out its nesting cavity, something you probably would not see if you hadn't done your pre-trip scouting. Also, be aware of how long certain plants will remain in an area; that is, the wildflowers and mushrooms you see on your solitary sojourn will still be there a week later, but not a month later.

Don't be intimidated if there is not an interpreter or guide available to accompany your group. It's common for adults to feel that they do not have the expertise to conduct such a field

trip. What if a child asks a question I can't answer, they wonder. The answer to that question is, "Don't guess—be truthful." If you don't know, say so. Perhaps you can get the answer for them when you return, or if you have field guides along, you can look for the answer together. Even the "experts" don't know everything about every plant, insect, bird, reptile, or other wild thing you're likely to see on your trip. If you do not have a field guide with you, or you can't find what you're looking for in it, make a sketch and identify it later. (Make sketches from several angles, including as many details as possible; take notes on colors and other identifying characteristics, as well as a description of the area in which you found the plant or creature.) Not knowing all the answers may very well spur you to learn more later, and may whet the appetites of your young participants to search for their own answers. No matter what your specific goals and objectives for the trip are, awareness of and appreciation for what you see are more important than knowing everything.

Sometimes, if you have a specific goal or project in mind for a field trip, you can fall into the trap of narrowing your vision: a wildflower walk leader who stops to admire a trumpet vine but ignores the hummingbird feeding on it is missing more than she/he is seeing—and so are the youngsters. Don't overlook the surprises that happen on a field trip. They can be the best part!

If expenses, time and/or transportation are a problem, don't give up on the idea of a field trip. They don't necessarily require a bus and long ride. The great thing about nature studies is that you only need to open the door and step out. Going someplace new may be more exciting for students, but it's not always possible. Even a vacant city lot can reveal interesting subjects for study. Tiny pill bugs live under bricks, boards or



even pieces of paper and litter, and you can find earthworms, centipedes, beetles and other invertebrates. You don't have to worry about them not being there when you want them, or the noise of excited children chasing them away. In the same vacant lot, a small pond in a bottle or car tire will house mosquito and other larvae. Sometimes bottles turned on their sides will become tiny greenhouses with several species of plants growing inside them. At the same time, litter can quickly become deathtraps for other animals, and a lesson on this is a valuable part of any field trip. Starlings and pigeons are common city birds, and although they may not be as attractive as a cardinal or robin, they are interesting to watch as they go through their daily routines.

Long bus trips require some planning in themselves. There are nature quizzes, math tricks and crossword puzzles to pass the time. I have found and used several nature quizzes that I can pull out for trips, when sitting around waiting for my group's scheduled tour, or anytime there's a lull in the action. One of my favorites is to name

an adult animal and ask the group to guess the name of the baby. We all know a baby dog is a puppy, but what do you call a baby whale? (A calf.) Another similar quiz is to give the name of a single animal while the class guesses what you would call a group of those animals. For example, you have a flock of sheep, a kettle of hawks and a swarm of bees. These are from the book, *Learning About Nature Through Games* by Virginia Musselman (Stackpole Books, 1967). A folder of activities can be a big help whether for a bus ride or an unexpected wait. You may never need it, but then again you may.

For a first trip out or with very young students, you may want to concentrate on developing observation skills. Practice observing by quietly sitting and listening for the sounds around you. Or place different objects on a table, then cover it with a cloth. Ask students to try to name all they saw. I know this activity as "Kim's Game," although it may have other titles. All of us learn better when we use our various senses. A scavenger hunt to find items that use all of our senses is very popular. Include different colors and shapes for sight, a list of sounds, smooth and rough textures, and sweet



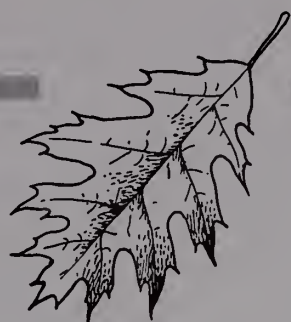
or pleasant smells. For the sense of taste I ask children to find something another type of animal ate part of or may want to eat. Leaves which have been nibbled by caterpillars or nuts for squirrels are present almost anywhere. Many animals eat grasses, as well. Since participants must make their own decisions about what fits into each category, there are no right or wrong choices. Be sure to allow some time for the group to share their discoveries. This is a good time to pass out magnifying glasses for a closer look.

For something slightly different, print sheets that contain lines measuring different lengths. Find items that match the lengths. (No fair breaking an item into several pieces to make it fit!) Use the metric system if you are also studying metrics.

The activities mentioned above will not last an entire day. They are easily done while on a class picnic, a trip to a park or even for a morning in a school yard. They are fun and an easy introductory field trip involving nature study. Scavenger hunts can also be used when you arrive early for a guided field trip. Be sure to take precautions to avoid harming the environment while collecting.

Field trips that are part of a larger period of study require much more preparation time. Students who know beforehand the purpose of the trip are more prepared to become involved. Special equipment for collection of data and analyzing that data may be needed. Zip lock bags work well when collecting specimens. They are lightweight and can be sealed tight. Do not collect more than is needed for the intended purpose. When in doubt, leave it where you found it. Be sure to label each bag, identifying its contents, the data collected, where it was collected and by whom. If live specimens are to be taken, be sure you have the correct equipment and facilities to properly care for them back at school. If not, return them unharmed

to their habitat before you leave. After the field trip, all specimens should be taken care of and equipment cleaned *before* everyone leaves. Allow for this extra hour or so in your planning so parents are not kept waiting, nor is the job left for one person. Take care of live animals first, being careful that the transition to their new home does not put them into shock. Plant specimens should be pressed before they wilt. Some, if not all of this can be done in the field.



Clean up as much of the equipment as possible, check the inventory and place it where it belongs.

These are only guidelines for a successful field trip. There are books available to help, too. In Virginia there are many places to take students into the field. There are state, national, local and regional parks withing a few hours of anyplace in the state. Many parks have interpretive staff members who will help plan your program while there. Some private businesses have areas where groups can hike trails and learn about the outdoor environment. Westvaco recently opened a nature area in Campbell County (see *Virginia Wildlife*, August 1984). The Virginia Institute of Marine Science at Gloucester Point will schedule programs about the Chesapeake Bay and the marine environment. Or start with your own community—even your school yard. There's plenty to learn.

The last rule is: Have fun! □



The Ridiculous Woodcock

**If you think this
gamebird looks
silly, you should
see the hunter
that tries to bag
him.**

*story and photos
by W. Hassell Taylor*

When compared to other birds, the woodcock seems comical, almost cartoon-like in its behavior and appearance. In fact, the words that are often used to describe this gamebird include "mixed-up," "haphazard," "ridiculous," "preposterous," "ludicrous," and even "put together backwards." Hunters sometimes call these birds "timberdoodles." What a name for a bird! But once you've seen one in action, you may agree with such descriptions.

This shore bird that adapted to upland habitat does appear to have been put together "haphazardly" or "backwards." But don't sell him short: he is well adapted to his environment. The extremely long bill with its prehensile tip can pick up small insects on the surface or probe the soft ground and locate earthworms beneath the surface of his favorite habitat. The bulging pop eyes set high on top of his head allow him to see without being seen. His coloration, many shades of brown and black, blend perfectly with the leafy forest floor, camouflaging him successfully. Indeed, he seems to disappear in even the most sparse ground cover.

When flushed he flies in a wobbling, erratic flight which may end in a ridiculous-looking fall into a covert, or a strong distance-covering flight to another covert. This flight pattern is deceptive, because although the woodcock appears weak, he is capable of flying thousands of miles during annual fall and spring migrations. Often several hundred miles are traveled in one night. The nocturnal woodcock feeds—and migrates—by night and rests by day.

The woodcock breeding and wintering ranges overlap in Virginia. Except during extremely cold weather, woodcock may be found in some parts of Virginia year-round. Flushing counts run on Quantico Marine Corps Base in the northern Piedmont have recorded birds present throughout the winter during mild weather. However, extended freezing temperatures in late December and January usually move the birds farther south into the southern Piedmont or Tidewater sections.

The primary winter range extends from Virginia's Tidewater south along the east coast and west along the Gulf to east Texas and along the Mississippi north into Arkansas.

Virginia is on the southern fringe of the breeding range. The primary breeding range extends from Maryland, West Virginia west through the lake states to Minnesota and north to southern Manitoba, Ontario, Southern Quebec, New Brunswick and Nova Scotia. Every state east of the Mississippi has records of woodcock breeding.

The male woodcock migrates north, usually a couple of weeks before the female, locates a singing ground and begins his courtship ritual. In Virginia the ritual often begins in early February with early-migrating males and continues into June. Early birds move north and others take their places. The courtship and breeding ritual takes place after dark and before dawn. It

occurs on a singing ground which is generally a clear, grassy area such as an open field, road shoulder, ball park, tennis court, small clearing or logging road. Most often it is near good nesting and brooding cover. Light intensity appears to stimulate courtship performance in the male woodcock; this light intensity occurs shortly after official sunset. The courtship ritual consists of a strutting, bobbing display and a nasal "peenting" sound. After uttering several "peents," the male begins his courtship flight. This consists of a series of circles in which the woodcock may reach several hundred feet. In flight, the accelerating wing beats create a musical twitter as the air rushes through the outer primary wing feathers. At the height of his flight, the woodcock

gives forth his true song, a series of musical chirps which continue as he descends to his original location on the singing ground where he repeats his ground display and "peenting." The ritual may continue for 30 minutes or until he attracts a female and mates with her.

The random singing ground survey conducted by the U.S. Fish and Wildlife Service (USFWS) with the assistance of state fish and game agencies is one of the primary management tools used by the USFWS in setting woodcock season guidelines. The singing ground counts are run April 10 to May 5 each year in Virginia. Virginia has 80 random routes of the 560 routes in the eastern region. Routes are run once each year, or until no birds are heard for two years; then, the route is not run for five years. In 1984, only 22 of the 80 routes were run in Virginia. Fifteen of the 22 routes reported 57 birds and the rest reported none. From the singing ground survey a breeding population index is developed for the eastern regions. The breeding population index in the eastern region decreased 11.5 percent from 1.92 to 1.70 singing male woodcock per route compared to an increase of 10.3 percent in 1983. This index has been decreasing at an average annual rate of 2.8 percent. Virginia's breeding population index increased 53 percent (one of three states with an increase) in 1984, compared to 17.6 percent in 1983. Most reports of woodcock broods reported in Virginia are from the central and northern Piedmont regions of the state. Broods are most often seen about the first week of April.

Nests are generally located on a slight elevation, well drained in a clump of shrubs near the base of a tree, often near the edge of a clearing. Most often the nest will

be within 50 to 100 yards of a singing ground. Old bicolor lespedeza strips with stems 3/4" to 1" have been favorite nest sites on Quantico Marine Corps Base. A nest is usually a shallow depression lined with a few leaves and blades of grass and a few twigs or stems placed around the edge.

A clutch usually consists of four brown, pink and gray mottled eggs. After an incubation of 19 to 22 days, most successful nests produce three or four chicks.

Young woodcock leave the nest within a few hours after they dry.

The hen leads them into nearby cover and the young are finding their own food within a few days. They are capable of short flights within two weeks and are fully feathered in about three. After four or five weeks, the family unit breaks up and young are no longer dependent on the female.

The mainstay of the woodcock diet is earthworms; however, they consume a variety of insect larva, snails, ants, grubs and some vegetative material. Favorite feeding grounds are moist soil, typically found in alder and aspen thickets along streams.

Having fed during the night, most woodcock loaf during the day. A warm wooded south slope of small second growth timber is often chosen for cover. In Virginia, alder, bicolor lespedeza, sumac, blackberry and other thick growing shrubs are utilized when available.



The woodcock is well adapted to his environment, from the long bill which allows him to pick up small insects or probe for earthworms, to the coloration that camouflages him on the forest floor.

Woodcock hunting in Virginia depends on the fall migration to concentrate birds in a given area. Success is often a hit-or-miss proposition. If you go when the birds are present, hunting can be excellent because they tend to congregate in the best coverts in large numbers. If you miss, there may be no birds present. Good woodcock coverts may be moist aspen, alder, swamp maple, blackberry and other thickets usually open enough for the birds to fly out of in bottoms or on sunny south slopes.

Fall migration usually starts about mid-October and peaks in early to mid-November in northern Virginia and the western mountain area. Central and southern Piedmont peaks occur from mid- to late November while Tidewater and Eastern Shore peaks occur from late November to early December.

The USFWS collects wings submitted by hunters each year. The wings are then sexed and aged by federal and state biologists at a "wingbee" held annually at Patuxent Wildlife Research Center near Laurel, Maryland. With information gathered from these wings, sex and age ratios and a recruitment index (ratio of immatures per adult female) are determined. For the eastern United States, this recruitment index decreased from 1.88 in 1982 to 1.62 in 1983 (-13.8 percent) which is roughly the long-term average. Virginia's index also decreased from 4.33 to 2.71 (-37.4 percent); however, because of the small number of wings available from Virginia hunters, this is not considered as reliable as the region-wide average.

Using the wing survey data and the singing ground survey data, the USFWS develops a hunting season framework of outside dates, season lengths and daily and seasonal bag limits. Each state then sets its own woodcock season within the established framework. Similar frameworks are developed for all migratory game species.

The Commission of Game and Inland Fisheries, working within the USFWS framework, sets dove, rail, snipe

and woodcock seasons at its July meeting. The game division, using data developed within the state and the USFWS wing and singing ground surveys, prepares suggested options for the Commission to consider. Requests by groups and individual hunters are also considered. The 1984 framework allowed Virginia to choose a straight or split season of 65 days between October 1, 1984 and January 31, 1985. Shooting hours must be 1/2-hour before sunrise until sunset daily with a bag limit of 5 daily and 10 in possession. The Commission chose October 29, 1984 to January 1, 1985 (65 days) for the upcoming woodcock season. This season encompasses the peak of the migration in all parts of the state.

The range-wide reduction of the breeding population index and the recruitment index seems to indicate a gradual decline in the woodcock population. It should be emphasized that this decline has not been due to over-hunting. Habitat changes throughout the woodcock range have been the major factor. Much of the woodcock's range in the Northeast has disappeared as industrial and urban development have drained and permanently destroyed a great deal of the once-ideal breeding and wintering habitat. Similar woodcock habitat losses have occurred in Virginia and many of the good singing ground survey routes have changed dramatically in the 18 years that the surveys have been run. Routes that formerly ran through open countryside and had eight to 10 singing males heard per route are now residential or industrial areas where no birds have been heard for the last three to five years.

Someday the woodcock may have to depend upon the new forest growth resulting from timber harvesting for much of its habitat needs. Increasing demands for wood and wood products could easily spell good news for this "spunky" little game bird that hunters and wildlife biologists alike will be watching. □



A woodcock nest in bicolor lespedeza, a favorite site.



The USFWS collects woodcock wings, then sexes and ages them at a "wing bee"; information gathered in this manner helps them set a framework for hunting seasons and bag limits.

Light Up the Marsh With Color



Glasswort

It may have escaped your notice, but look closely: a marsh is alive with color at this time of year.

story and photos by Curtis J. Badger

Many people have the idea that a salt marsh is a pretty drab place. Green grass in summer. Brown grass in winter. About as visually exciting as a plate of cold noodles.

While Virginia's uplands get to put on a flashy display of color each fall, the wetlands manage an unremarkable transition from green to brown. No one ever accused the marsh of being flamboyant.



Cordgrass and Sea Oryzopogon



Sea Oregg





If you're zooming past the marsh on your way to the fishing grounds, it's easy to get that impression. But if you slow down and get your feet muddy, you might find that the marsh is really a colorful, fascinating place. Prowling through the cordgrass, you are likely to make a few discoveries you wouldn't have from a boat.

For instance, in most saltmarshes you are likely to find a strange, small, tubular plant called saltwort or glasswort. Although it is green in the summer, in the fall it flows like a miniature neon light. Colors range from yellow to orange to red, and when the sunlight is behind the plants, they light up as if someone just "switched them on."

Even cordgrass, the predominant plant of the marsh, can get a little gaudy in the fall during the green-to-brown transition.

Its cousin, salt meadow hay, curled and folded in neat cowlicks, can be soft green or intensely golden, depending upon the season.

If you look closely along the upper parts of the marsh, you can usually find a beautiful little plant called sea lavender that has tiny blue flowers from July to October. In winter, when the stems dry, the plant is a popular addition to flower arrangements.

Sea oxeeye, which is also found in the higher parts of the marsh, has brilliant yellow blossoms through the summer and dark brown, burr-like seed pods in winter. The fleshy leaves also take on color in the fall, becoming rimmed in red or yellow.

Groundsel tree, a tall shrub, puts on a show from October to early winter with white seed bristles that nearly cover the plant.

The saltmarsh has a limited variety of plants, but all of them are capable of getting colorful when the conditions are right. You just have to know where and when to look.

An excellent field guide to tidal wetland plants has been prepared by Gene Silberhorn of the Virginia Institute of Marine Science, with illustrations by Mary Warriner. It is strongly recommended for anyone who wants to know more about Virginia's colorful marshland plants. The address of VIMS is Gloucester Point, Virginia 23062. □



Glasswort



Hunt a Wildlife Management Area

**Public hunting lands
are alive and well in
Virginia.**

*story and photos by
Bob Gooch*

The most popular game species in Virginia? License sales and informal surveys offer strong indications, and I have some ideas of my own. The whitetail deer, as fine a big game animal as you will find anywhere, is certainly among the most popular, and no game bird gets more attention than the elusive mourning dove, the gray ghost of the grainfields. The frisky little gray squirrel appeals to the old and young alike and draws hunters from all walks of life, and Old Dominion waterfowl hunting enjoys a rich tradition. There are ruffed grouse from the Blue Ridge foothills west, and turkey hunting is gaining momentum as the flocks continue to expand.

The bobwhite quail and the cottontail rabbit, traditional favorites in Virginia, may have seen their heyday, but both still offer many days of exciting hunting every season. The black bear is holding its own, and the birds of the wetlands, namely rails, snipe and woodcock, are probably underharvested.

But where can you enjoy some of this fine hunting? "No Hunting" signs seem to be as prevalent along Virginia's back country roads as billboards, and getting permission to hunt seems almost impossible. It's true that approximately 80 percent of the 25.5 million acres of land in the Old Dominion is under private ownership and much of the annual harvest of game comes from such land.

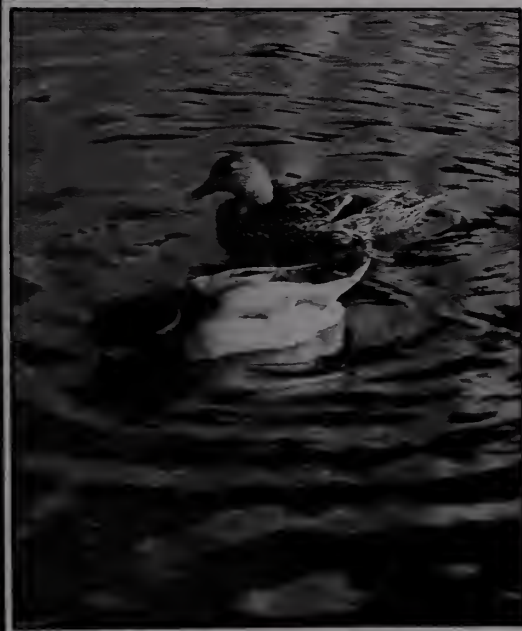
Much of the private land is open to hunting by lease, permit, or outright purchase, but there are also several million acres of public land that offer good hunting. Among these acres are some of the very best hunting lands in America. The hunter without access to private lands need not despair. There is plenty of good hunting in the national forests, the state forests, lands of the U.S. Army Corps of Engineers, and on several of the military reservations. Information on these lands is available from the Commission of Game and Inland Fisheries. The Commission can also furnish information on thousands of acres of corporate lands open to hunting.

(An article on hunting Virginia's military posts appeared in the September 1984 issue, "Hunting on Virginia's Military Areas," by Gerald Almy, page 29.)

And then there are the Commission's own lands, lands owned by the hunters of Virginia and managed for them by the professional wildlife managers on the staff of the Commission of Game and Inland Fisheries. These lands are managed specifically for wildlife, the only public lands in the state devoted solely to game management and hunting. Appropriately called wildlife management areas, there are 30 of them, ranging in size from 671-acre James River Wildlife Management Area (WMA) in Nelson County to the sprawling 25,000-acre Clinch Mountain WMA in Russell, Smyth, Tazewell, and Washington Counties. They dot the Virginia landscape from Mockhorn Island WMA on the stormy Atlantic coast in Northampton County to Hidden Valley WMA deep in the rugged mountains of Washington County, and from the G. Richard Thompson WMA along the eastern slopes of the Blue Ridge Mountains in Fauquier County south to Elm Hill WMA in Mecklenburg County on the North Carolina border. Collectively, they offer over 170,000 acres of hunting for just about every species



Most WMA's offer good squirrel hunting, except the waterfowl areas. This fox squirrel was taken from one of the western WMA's. The eastern part of the state, on the other hand, offers plenty of waterfowl hunting (inset), including several fee areas which offer blinds.



of game in Virginia from the tiny sora of the river marshes to the black bear, the state's largest game animal.

"I'm impressed with Virginia's public hunting lands," said Jeff Frischkron, an Ohio outdoor writer who had just enjoyed a productive day of rabbit hunting on the Amelia WMA.

The more accessible wildlife management areas get a lot of hunting pressure and though they produce a lot of game, the hunting is likely to be less productive than that on like private land subjected to lighter pressure. This is a simple fact of life for those who hunt public lands and for those who manage them.

Let's move now from generalities to what specific wildlife management areas offer those who seek some of Virginia's more popular game species. Regardless of your preference you are almost sure to find good hunting on one or more of the public hunting areas.

A good portion of Virginia's 80,000-plus deer harvest comes from the George Washington National Forest and private farmlands east of the Blue Ridge Mountains, but some of the wildlife management areas can also be productive.

One good approach to selecting a likely wildlife management area is to first determine the top deer hunting counties and then choose an area that offers hunting in one of those prime counties.

Traditionally, the high-deer-harvest western counties include Augusta, Bath, Grayson, Rockingham and Shenandoah. Unfortunately, there are no wildlife management area lands in Grayson, Rockingham and Shenandoah Counties though there are national forest lands in all three. The Little North Mountain WMA, however, offers over 17,000 acres of public hunting land in Augusta, and the Gathright WMA provides over 13,000 acres in Bath. There is also a small section of the Highland WMA in Bath County.

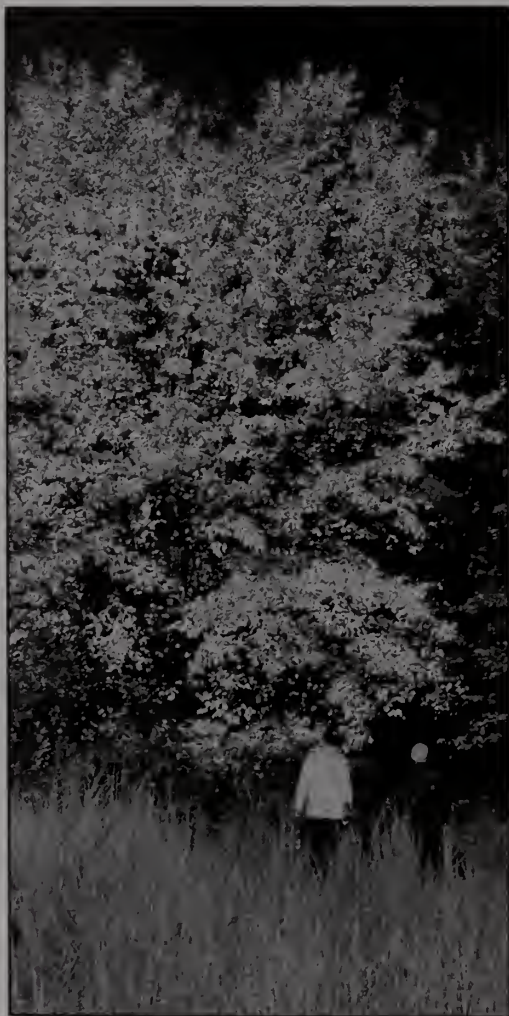
Western deer hunters should also consider the Highland County section of the Highland WMA and the Goshen WMA in Rockbridge County.

Eastern deer hunters enjoy more choices in public hunting lands. Amelia, Bedford, Buckingham, Southampton, and Sussex are usually among the top counties there, and there are good public hunting lands in all except Southampton and Sussex. Fortunately, timber companies offer public hunting in those top deer hunting counties, and there are national forest lands in Bedford.

The big wildlife management areas, however, are 2,200-acre Amelia in Amelia County and 2,600-acre Horsepen Lake WMA in Buckingham. Both are excellent deer hunting areas. Other wildlife management areas in high-harvest counties include the C.F. Phelps and G. Richard Thompson WMA's in Fauquier County, Hardware River in Fluvanna County, Pettigrew in Caroline County, Powhatan in Powhatan County, and White Oak Mountain in Pittsylvania County.

Few hunters will argue with the statement that the very best dove hunting in the Old Dominion is found on private farmlands, though I've enjoyed some fantastic shooting on the Fort Pickett Military Reservation. Some

of the wildlife management areas are managed for doves, however, and they also offer good shooting. Much depends upon the habits of the birds and the availability of food elsewhere in the general vicinity of the public hunting lands. The hunting is often unpredictable at best.



A good stand of hardwoods and a good mast crop will insure quality squirrel hunting.

One of the secrets of successful dove hunting is to refrain from overshooting a field, and the Commission does this by limiting hunting on its wildlife management areas to Wednesdays and Saturdays.

Wildlife management areas managed for doves include Amelia in Amelia County, Chickahominy in James City County, Elm Hill in Mecklenburg, Hardware River in Fluvanna, James River in Nelson, Powhatan in Powhatan, and White Oak Mountain in Pittsylvania. A choice from among these areas is a toss-up, but Amelia, Elm Hill, and Powhatan Wildlife Management Areas seem to be located in Virginia's best dove hunting country.

Except for the waterfowl management areas, there is probably not a wildlife management area in Virginia that does not offer good squirrel hunting. All you need is a good stand of hardwoods. The hunting will vary from year to year

depending upon the mast crop. Locate some hardwoods and a good mast crop and you are likely to have good squirrel hunting. For a start try Amelia, Hardware River or Powhatan WMA's in the east, Clinch Mountain, Gathright, Hidden Valley, Little North Mountain, or Turkey Cock Mountain in the west, Fairystone Farms or White Oak Mountain in the south, and G. Richard Thompson or Rapidan in the northern part of the state.

While just about all of the wildlife management areas offer limited duck hunting when you consider beaver flowages, small impoundments and streams, the true waterfowl management areas are in the extreme eastern part of the state. The waterfowl hunter will want to consider the Eastern Shore marshes, Mockhorn Island WMA in Northampton and Saxis in Accomack, Chickahominy WMA in James City County and picturesque Ragged Island in Isle of Wight, and the Back Bay and Hog Island fee-hunting areas. Details on the latter are available from the Commission Office in Richmond. (See article on page 3.)

Other game? The Rapidan WMA is probably the best bet for bear, though Gathright, Goshen, Highland, and Little North Mountain are also possibilities. The latter three are also good choices for turkeys. In the eastern part of the state, the hunter will find some turkeys on wildlife management areas such as Amelia, Fairystone Farms, Hardware River, Horsepen, James River, Powhatan and G. Richard Thompson. As in the case of deer, the turkey harvest in the counties in which the wildlife management areas are located is the best guide to good hunting. Horsepen is among the best.

Just about any wildlife management area from the Blue Ridge foothills west is likely to offer hunting for ruffed grouse, a bird growing in popularity in recent years. For the very best hunting, however, I would select those in southwest Virginia, namely the Clinch Mountain and Hidden Valley WMA's. The hunting can be tough in those mountainous regions, but grouse hunting requires a certain amount of stamina anywhere you find it in Virginia.

You will find some quail and rabbit hunting on many of the wildlife management areas such as Amelia, Elm Hill, Hardware River, James River, Pettigrew, Powhatan and others where part of the land is leased to local farmers. The Commission's share of the crops is left standing for wildlife. This provides the kind of agricultural cover and food that has produced quail and rabbit hunting for generations of Virginia hunters. Quail and rabbits can rarely withstand the hunting pressure of public lands, however, and the hunting on the wildlife management areas cannot compare with that found in private farmlands. And it is no fault of the management program.

There is no charge other than the normal license and tags to hunt Virginia's wildlife management areas. They're a real bargain today for quality hunting.

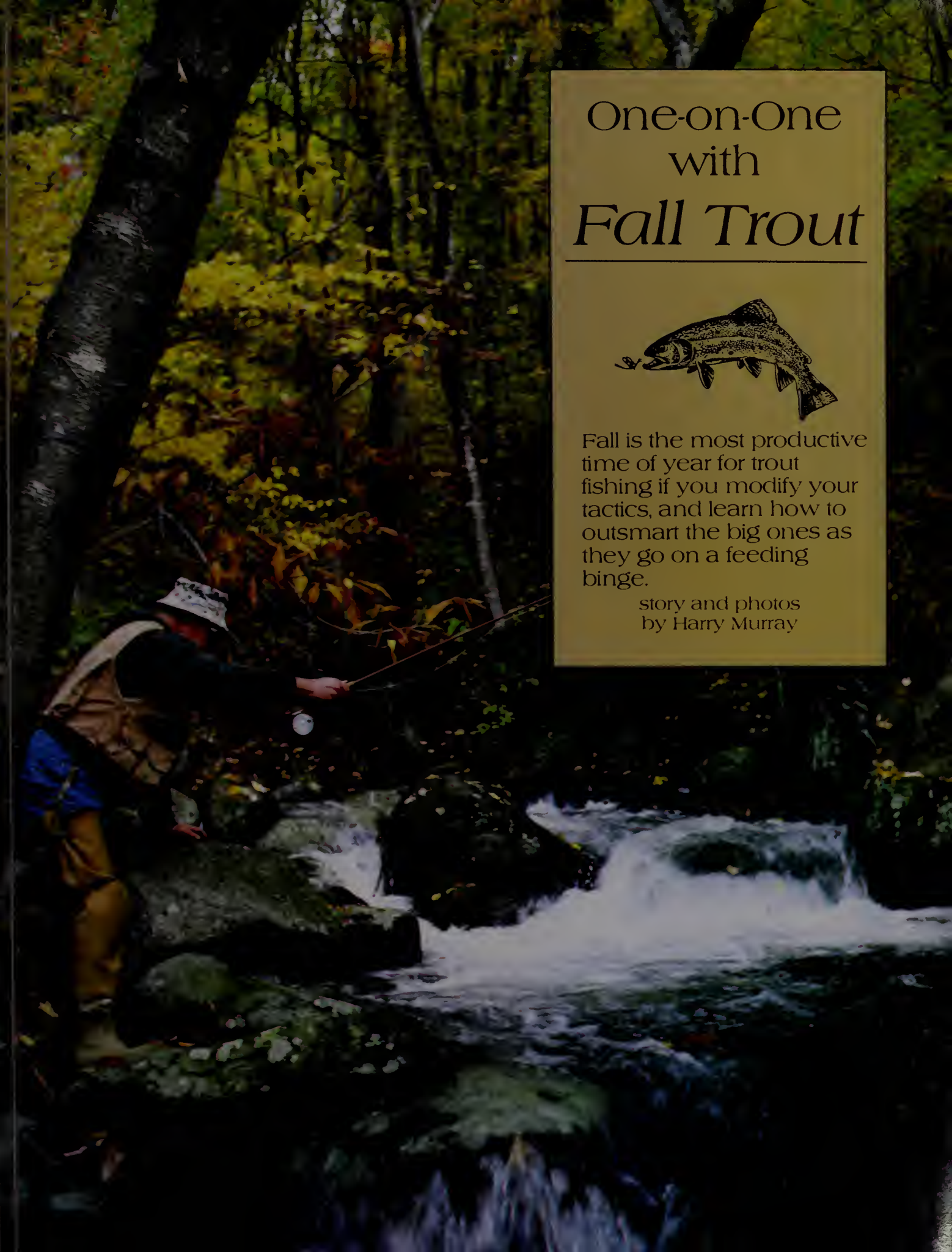
Write the Commission of Game and Inland Fisheries, Box 11104, Richmond, Virginia 23230-1104 and ask for *Virginia Hunter's Guide* and *A Guide to Virginia's Wildlife Management Areas*. Both will give you more details about your wildlife management areas. The first is free, but the second will cost you a dollar, the best dollar you ever spent. □

One-on-One with *Fall Trout*



Fall is the most productive time of year for trout fishing if you modify your tactics, and learn how to outsmart the big ones as they go on a feeding binge.

story and photos
by Harry Murray



Few anglers realize it, but September and October usually provide some of the very best trout fishing of the entire season. We no longer have the crowds of fishermen often encountered early in the season and the high water conditions from the spring runoff are far behind us. What remains are those tough trout which have survived anglers, natural predators, and the stressful conditions of summer.

If we hope to achieve reasonable success in catching trout at this time of the year, it is well to realize they did not last this long by being stupid. Thousands of generations of adapting and growing in our streams have taught these trout what is required of them for survival. By carefully observing and studying the natural rules by which they are governed, we will find that we can consistently take our best fish at this time of the year.

The hidden fringe benefit we receive is that we will learn more about the trout and the streams in the fall than at any other time of the year. The chuck-it-and-chance-it tactics of spring provide poor results now. In many cases, it comes down to a one-on-one contest between you and a certain trout. The outcome is going to depend on how well each of you have learned to observe and play by the rules.

The tremendous increase in the trout's feeding habits each fall is brought about primarily through the decrease in stream temperatures. The same trout which could be observed in mid-August lying motionless on the stream bottom, seemingly just hanging on to get through the summer heat, is now actively feeding. Until the fall rains, this may be the only physical change which occurs on our streams, but it really makes a big difference.

Unfortunately, nature does not provide the great abundance of food to match the trout's growing appetite now which she did the previous spring. The great hatches of our blue quills, light cahills, and other mayflies are far behind. Even the beautiful little yellow stoneflies which were present on our streams most of the summer are now only memories for the hungry trout. There is food around the stream now but it consists mostly of ants, beetles and true midges. These are all small insects and it takes a lot of them to fill the trout's stomach.

The trout are readily aware of this situation and quickly adapt their feeding tactics to the game at hand. If the water level were the same now as in April, the trout could easily select a feeding station in the open stream where the strong currents would bring even these small insects to them. They would simply have to eat more to get filled up. But the stream levels now are very low and the large trout find they do not get enough to eat by holding on a feeding station to wait for the gentle currents to bring them dinner. Many small trout now take over what would have been considered the primary feeding stations four months ago, and this confuses many anglers. They fish the same stream in the fall which produced so well for them in the spring, using the same flies and covering the same feeding stations and come up with only small fish. Those small fish have not yet learned what their daddies knew when they gave up those former hot spots to them.

Knowing he must get the most food in the shortest time period, and with the least amount of effort to build



up his strength for the coming spawning season and winter, the large trout now go looking for the food. They adopt a feeding technique I call cruising. The low water conditions and the fact that much of the available food is land-born terrestrial insects provide a perfect set up for this feeding tactic.

I like to approach each pool very carefully from below, and with the aid of polarized sunglasses, try to spot the feeding trout before I make my presentation. This is easier than you might think because the large trout have pulled out of the main currents and cruise the slow flats and back eddies in search of the ants, beetles or anything else good to eat which accidentally tumbled in from the trees above.

The easiest way to spot these cruising trout is to stay well below the pool in question and carefully watch the water surface for the rise form which occurs when he sucks under a natural insect. Normally, we do not have to wait long to see these hungry trout picking off small tidbits of food, because they know what many anglers



Fall fishing means tough fish and "spooky" conditions, so select your tackle accordingly (top and inset). The author recommends cinnamon and black ants in sizes 16 through 22, black beetles in sizes 16 through 20, and grizzly midges with black, tan or olive bodies, sizes 18 through 24. (Top right) High water conditions that prevail in the spring are gone by this time of year. (Center right) A brookie in fall spawning coloration. (Right) the author recommends watching a "cruising" trout and waiting until you detect its feeding pattern before making a presentation.

have not yet learned—this is the only game in town. The food may be small and spread out but it is eat this or nothing at all.

Occasionally some of this food will be suspended in the stream, or in the case of the midges, making their ascent from the stream bottom up through the current. In these cases there will be no rise forms on the surface to signal their presence. We must actually search out these depths by careful and patient observation. Again, this is not as difficult as it may sound. The fish are on the move and this movement makes them surprisingly easy to spot. Many of these streams contain brook trout, and though nature normally does an excellent job of camouflaging her own, there is a breakdown here. Even at considerable depths, the brilliantly colored ivory-edged fins can be easily spotted. It is almost as if nature saw this as too beautiful to hide.

Once I spot my feeding trout, years of experience on thousands of missed trout have taught me to use restraint. I actually watch him very closely and do not make my presentation until he has taken his third natural insect. Many of these feeding trout adopt a certain pattern in their cruising, and by waiting until he takes the third insect, I can anticipate where I should drop my fly.

I like to cast my fly about two feet out in front of the trout in the anticipated cruising path. Placing the fly much further ahead than this would allow him enough space to change direction and not see the fly at all. Dropping the fly much closer than this may spook him, and in these low water conditions, he might not come back for several hours.

If I am fishing dries to a riser I allow the fly to lie motionless on the surface, and if he does not take it on the first pass, I gently pick it up after he is well beyond it and recast it in front of him. Normally, if my cast is

For most fall trout fishing, the author uses a delicate 7½-foot fly rod and number 4 line.

accurate, he will take it the first time he sees it. After all—he's there to feed, not take swimming lessons.

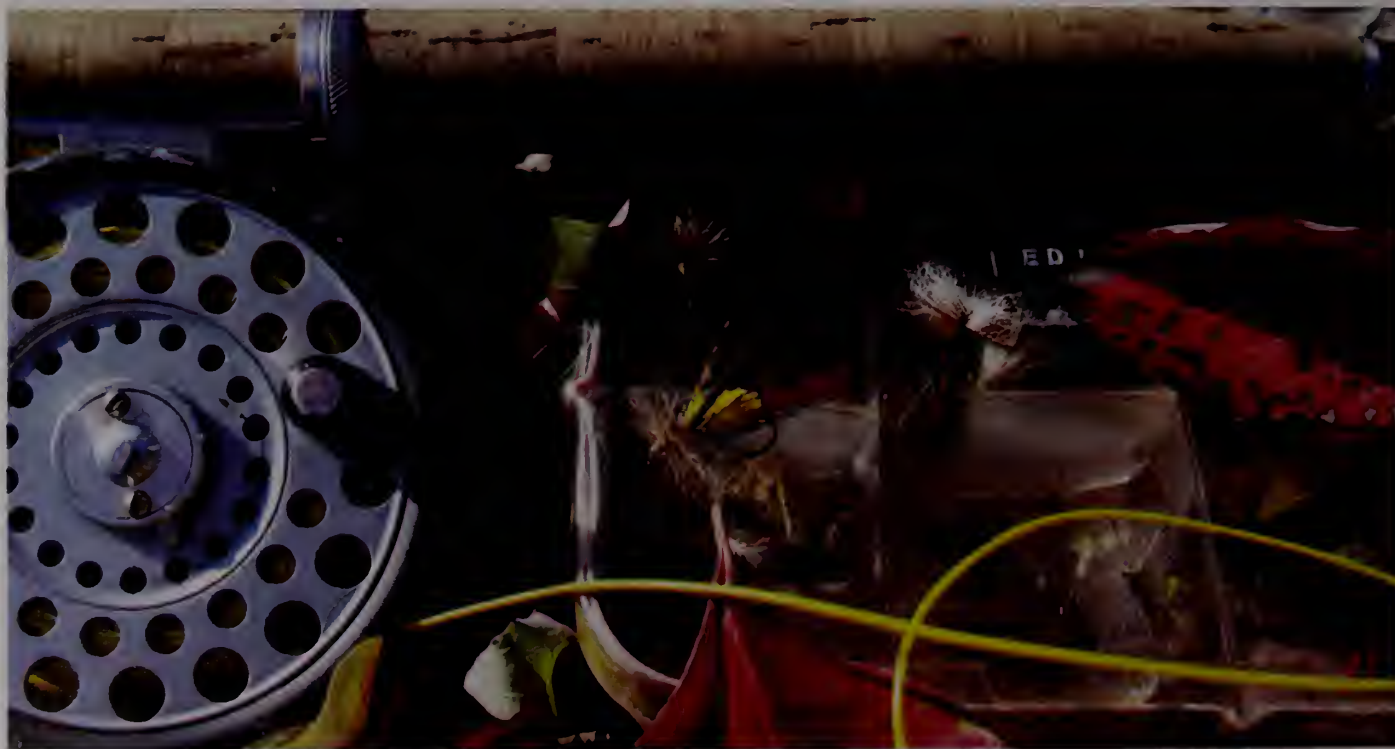
When I spot a good trout cruising two or three feet below the surface, picking up food there in preference to coming to the top for it, I will switch to a small nymph or wet ant. I use basically the same tactics I do when fishing dries, except that now I may impart a very slight action to my fly. I feel this will enable the trout to spot it more quickly than if it is just drifting in the current.

Often it is possible to land several good fish in each of these pools if you can get the first one away from the hot spot and fight him in an area of your choosing rather than his. Even if I am compelled to fight and land my trout in the pool below the one in which I hooked him, I still prefer to release him into his home pool. Spawning season is very close at hand and considering the low water, he may not be able to negotiate the separating riffle to get back to his home pool to spawn.

Since we are fishing to tough fish in spooky conditions with small flies, we should choose our tackle accordingly. For most of this fishing, I use a delicate 7½-foot fly rod which handles a number 4 line. It is imperative that the rod be finely tipped to protect the light leaders. My leaders are usually about 8 feet long and tapered down to a 6x tippet. The strength of these leaders is only a fraction of what we had in those we used last spring. The use of a stiff fly rod or strong arm tactics on our part will result in breaking off the trout on the strike—easy does it.

The flies that produce the best results in the fall are cinnamon and black ants in sizes 16 through 22, black beetles in sizes 16 through 20, and grizzly midges with either black, olive or tan bodies, all in sizes 18 through 24.

For the angler who is willing to gear down, approach carefully and try to outsmart rather than overpower the trout, fall fishing will provide exciting rewards. □



-October Journal-



Waterfowl Seasons Set

At its August 24, 1984 meeting, the Commission of Game and Inland Fisheries set waterfowl season dates and bag limits for the 1984-85 season.

A digest of waterfowl hunting laws is available from your license agent, or from the Game Commission.

The point system remains in effect for the upcoming season. A description is available from the Game Commission.

HUNTING SEASONS AND BAG LIMITS

Shooting Hours—All waterfowl, all seasons: ½-hour before sunrise until sunset.

General duck season: October 3-6, November 20-December 1 (except black ducks), December 10-January 12. Bag Limit: see Duck Point System.

Black duck season: October 3-6, December 10-January 12. Bag Limit: see Duck Point System.

Special Sea Duck Season: October 5-January 19.

Special Scaup Season: January 14-29.

Special Canvasback Season: January 7-12.

Gallinules and Coots: October 3-6; November 20-December 1, December 10-January 12. Bag limit: 15 per day, 30 in possession.

Snow Geese: November 3-January 31 (except on waters of Back Bay where the season is November 20-December 1, December 10-January 12). Bag limit: 4 per day, 8 in possession.

Canada Geese: (Statewide except Back Bay and Eastern Shore) November 10; November 12-January 19. Bag limit: 3 per day, 6 in possession.

Canada Geese on Back Bay: October 3-6, November 20-December 1,

December 10-January 12. Bag limit: 2 per day, 4 in possession.

Canada Geese in Accomack & Northampton Counties: November 3-January 31. Bag limit: 4 per day, 8 in possession.

Brant: October 3-6, November 20-December 1, December 10-January 12. Bag limit: 4 per day, 8 in possession.

Consult the waterfowl digest for more information on sunrise and sunset times, and descriptions of special seasons and areas. □

Game Commission Audio-Visual Productions Honored

Two major audio-visual programs produced by the Game Commission's education division have been honored in the annual competition sponsored by the Association for Conservation Information (ACI). During the recently concluded contest, the radio public service announcement entitled "Colonial Nesting Bird Research" produced by Lou Hinshelwood and Spike Knuth won first place in the public service announcement category. In the television program category, the 30-minute program "Virginia Wildlife," co-produced by Spike Knuth and Lou Hinshelwood, was the second-place winner.

The Association for Conservation Information is a professional organization comprised of information and education personnel from state, federal and Canadian provincial agencies in the fields of natural resources, conservation and game and fish. □

-October Journal-



Bowhunter Education in Virginia

Tom Kidwell, State Chairman for Bowhunter Education in Virginia, has announced the appointment of district supervisors who will administer the International Bowhunter Education Program here in 1984 and 1985.

Each district supervisor has between 10 and 20 certified instructors who are actively involved in conducting the eight-hour classes throughout Virginia.

The district supervisors and their areas of responsibility are as follows:

Patrick Henry District

Tom Lester—804-649-2311
(Amelia, Appomattox, Brunswick, Buckingham, Charles City, Charlotte, Chesterfield, Cumberland, Dinwiddie, Fluvanna, Goochland, Greensville, Henrico, Lunenburg, Mecklenburg, New Kent, Nottoway, Powhatan, Prince Edward and Prince George Counties; Cities of Colonial Heights, Emporia, Hopewell, Petersburg and Richmond)

Jeb Stuart District

Steve Walker—804-799-2679
(Amherst, Bedford, Botetourt, Campbell, Carroll, Craig, Floyd, Franklin, Halifax, Henry, Montgomery, Patrick, Pittsylvania and Roanoke Counties; Cities of Bedford, Buena Vista, Danville, Lynchburg, Martinsville, Radford, Roanoke, Salem and South Boston)

Thomas Jefferson District

Richard Alexander—703-896-5231
(Albemarle, Allegheny, Augusta, Bath, Clarke, Culpeper, Frederick, Greene, Highland, Madison, Nelson, Orange, Page, Rappahannock, Rockbridge, Rockingham, Shenandoah and Warren Counties; Cities of Charlottesville, Clifton Forge, Covington, Harrisonburg, Lexington, Staunton, Waynesboro and Winchester)

Daniel Boone District

Ken Sorrels—703-254-8485
(Bland, Buchanan, Dickenson, Giles, Grayson, Lee, Pulaski, Russell, Scott, Smyth, Tazewell, Washington, Wise and Wythe Counties; Cities of Bristol, Galax and Norton)

George Washington District

Van Vanek—703-439-3656
(Arlington, Caroline, Essex, Fairfax, Fauquier, Gloucester, Hanover, King George, King and Queen, King William, Lancaster, Loudoun, Louisa, Mathews, Middlesex, Northumberland, Prince William, Richmond, Spotsylvania, Stafford and Westmoreland Counties; Cities of Alexandria, Fairfax, Falls Church and Fredericksburg)

Hampton Roads District

Tom Schanbacher—804-420-3157
(Accomack, Isle of Wight, James City, Northampton, Southampton,

Surry, Sussex and York Counties; Cities of Chesapeake, Franklin, Hampton, Newport News, Norfolk, Portsmouth, Suffolk, Virginia Beach and Williamsburg)

If you are interested in attending a bowhunter education class or your club or group would like to have a class, please contact the district supervisor in your area. □

Subscriber Service

If you're moving, please don't forget to let *Virginia Wildlife* know. Use the form below: attach a recent label from *Virginia Wildlife*, and fill in your new address in the blanks provided. Please allow *six to eight weeks* for a change of address to be reflected on your *Virginia Wildlife* label.

If you have questions about this, or any question concerning your *Virginia Wildlife* subscription, write to us in care of Data Processing, Virginia Game Commission, P.O. Box 11104, Richmond, Virginia 23230-1104, or call 804/257-1449.

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Non-Game Update

Educational field trips are considered one of the most valuable learning experiences used in schools today. However, reduced school budgets have restricted the number of educational trips classes may take. An interactive educational unit produced by the Virginia Water Resources Research Center at Virginia Tech with a grant from the Game Commission's Non-Game Fund can provide an inexpensive alternative to field trips while teaching a number of wildlife management principles. In addition, students from all areas of the state will be able to experience the ecology of distant sites without making the trip. (See related feature story beginning on page 10.)

The Wildlife Management Unit consists of a 28½-minute videotape that records the visit of seven Blacksburg High School science students to Pandapas Pond in the Jefferson National Forest in Montgomery County. The goal of the tape is to instill an appreciation of the importance of a mountain pond to wildlife and the need for wildlife management. Wildlife specialists instruct the students in three wildlife management techniques: radio telemetry, which tracks the territory covered by a wild turkey during one day; capture-mark-recapture of meadow voles to measure population density; and seining the pond to determine the ratio of bluegills to bass. Classroom viewers participate in the learning experience by performing on worksheets the same three exercises as students in the videotape.

Appearing in the videotape are Virginia Tech graduate student Todd Holbrook, who instructs the students on how wildlife managers use radio telemetry to determine the type and size of feeding areas of wild turkeys; Sandy MacPherson, a Virginia Tech graduate student, who conducts the population density exercise and



Sarah Bartenstein

Videotape makes it possible for students to "travel" without leaving the classroom.

instructs students in the use of the Lincoln Index; Commission of Game and Inland Fisheries wildlife educator Susan Gilley and Linda Dellers, a 1983 biology graduate of Virginia Tech, who demonstrate the seining operations. Gener Gardner, manager of Tech's radio-TV-film unit, leads the seven students on the field trip. The students, 11th-place winners in the National Science Olympiad 1982 Contest, are Susan Jortner, Katy Morikawa, Todd Perry, Anthony Pratt, Jason Reifsnider, Scott Sheldon, and Laura Sporakowski. Technical assistance was provided by Tech's Department of Fisheries and Wildlife. The Instruction Television Division of Tech's Learning Resource Center filmed the program, which was directed by Charles Frazier and written and produced by Kathy Sevebeck.

The unit also contains a Pond Management Computer Learning Game that uses an Apple II+ or //e computer using DOS 3.3 and a color monitor. The computer game teaches the concepts involved in balancing the fish population in a small pond. Students answer a series of questions, then through color graphics appearing on the monitor, balance the ratio of bluegills and bass by manipulating

the bass to eat the bluegills. The number of bluegills eaten and the pond ratio are given after each exercise.

The unit also includes a set of the three student participatory learning exercises used on the videotape. These sheets can be duplicated for classroom use. A student handbook and a teacher's guide with goals and objectives, brochures, posters, evaluation items and additional resource materials are included in the units.

The interactive educational Wildlife Management Unit is available on loan from the Commission of Game and Inland Fisheries, Box 11104, Richmond, Virginia 23230-1104; telephone (804) 257-1000, Attention: Susan Gilley. The unit can be used in conjunction with activities from Project WILD, an interdisciplinary, supplementary environmental and conservation education program that is also available from the Game Commission. Copies of the computer program and the videotape field trip are available if a 5¼" single-sided, single density diskette and either a ½" or ¾", UCA 30 minute videocassette are provided to Virginia Water Resources Research Center, 617 North Main Street, Blacksburg, Virginia 24060-3397; telephone (703) 961-5624, Attention: Kathy Sevebeck.

The Wildlife Management Unit was field tested in three Virginia schools by 75 students ranging in age from 11 to 14 years of age, and teachers who took the Virginia Resource-Use Education Council's environmental education course last summer. Educators participating in this summer's course, which is offered at four Virginia colleges and universities, viewed the program and endorsed it as an innovative approach to presenting environmental concepts in the classroom. The wildlife management videotape program is one of six proposed field trip simulations exploring the state's natural resources. As funding becomes available, programs on water quality, geology, forestry, marine resources, and soil conservation will be produced. □

by Kathy Sevebeck

October Journal



Virginia Game Warden Bill Powers of Prince Edward County receives a plaque of appreciation from Blackstone Chief of Police Wayne Shields. Powers is the outgoing president of the Piedmont Law Enforcement Association, an organization which meets monthly to exchange information and ideas related to law enforcement. Shields is the new president.



Quail Unlimited Announces Expansion Plan

Due to the success of its chapter program and habitat management program, Quail Unlimited, Inc. recently announced that it plans to expand its habitat program into Alabama, Tennessee, Mississippi, Texas,

Arizona, and Oklahoma. The organization will also move into South Carolina, Virginia, Nebraska, Iowa, and Ohio. The type of habitat projects the organization will be involved with include the planting and managing of quality game food plots, controlled burning, purchasing standing crops from farmers, and co-op seed and incentive programs for landowners. Quail Unlimited is also involved in the leasing of acres for wildlife.

"This expansion program will allow us to now fund projects in virtually all states within the quail's range from the Atlantic coast to Texas and north to Nebraska," says J.R. "Rocky" Evans, National Director of Quail Unlimited. "By the end of the 1985 hunting season, we will initiate projects in Florida, Louisiana and Arkansas. This will complete Phase I of our habitat management program," reports Evans. "Our first objective is to intensively manage all game management areas and public hunting areas for quail and upland

game birds. When all those available are under intensive management, we plan to initiate Phase II of our program. This program is designed to lease and make available additional acreage for sportsmen across the country."

The organization anticipates that habitat projects for 1984 will cost in excess of \$250,000. "We plan to fund over a half million dollars in habitat projects the following year, but thanks to concerned sportsmen, I am sure we will meet these challenges."

All Quail Unlimited habitat projects are funded through QU chapters across the country, now numbering over 160. For additional information, contact Quail Unlimited, National Headquarters, P.O. Box 10041, Augusta, Georgia 30903. □

About the Authors

Bob Gooch is a frequent contributor to many sportsmen's publications, including *Virginia Wildlife*. He has also written a book about Virginia's wildlife management areas. He is a resident of Troy. **Mike Fies** recently joined the staff of the Game Commission as an assistant wildlife biologist working out of the Staunton office. **Susan Gilley** is another Game Commission employee: she is a wildlife education specialist with the education division. **Hassell Taylor** is a wildlife research biologist for the agency's game division; he lives in Culpeper. **Curtis Badger's** stories and photos have graced the pages of *Virginia Wildlife* often over the years. Formerly of Virginia's Eastern Shore (and the *Eastern Shore News*), he now lives in Maryland where he is pursuing a full-time career in freelance. **Harry Murray** of Edinburg is becoming a regular contributor to *Virginia Wildlife*. The fly fishing instructor runs a tackle shop and writes for us on trout and smallmouth bass. □

"In Nature's Garden" Illustrator Passes Away



Lucile Walton, who drew the illustrations for *Virginia Wildlife's* column "In Nature's Garden" for 11 years, died on June 23, 1984 after a period of ill health. She lived in Danville where she was for many years a science and art teacher at George Washington High School. Collaboration for "In Nature's Garden" between Miss Walton and Elizabeth Murray, who wrote the text, began in 1971 at the Mountain Lake Biological Station,

where Miss Walton spent every summer from 1930 when the station opened until the late 1970's. In addition to the illustrations for the column, Lucile Walton provided many other flower paintings for *Virginia Wildlife*, including several covers. Her appreciation for Virginia's wildlife and her beautiful paintings will be missed by many people across the state. □

Letters

I would like to thank you for the fine article on Warden Bob Crigler of Madison County (July 1984).

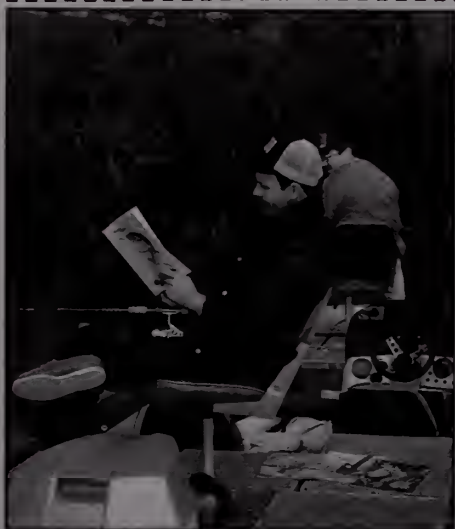
But I think a lot that could have been said, was not.

Bob also enjoys woodworking and furniture refinishing as a hobby, not only for himself but for his friends. He is a member of the Fraternal Order of Police, Blue Ridge Lodge #45 (of which I'm also a member) and gives his constant support in lodge activities and civic functions.

Also Bob became eligible for retirement several years ago, but prefers to continue working even though the job leaves a lot to desire at times.

Even with all of his previously mentioned interests he does some farming and raises cattle. I think everyone that knows Bob would admit that he has more energy than most people half his age, and a better man could not be found.

R.D. Yowell
Stevensburg



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The Great Egret

The egret has played a dramatic, pivotal role in the North American conservation movement. It was the mass killing of this bird by those in the millinery trade, to obtain the "aigrettes" or plumes, that prompted the founding of the first Audubon Society. And it was the halt in the traffic of these feathers that gave continued impetus to the Audubon movement in the early part of the century.

The great egret, and the smaller, snowy egret, are adorned with sprays of intricately patterned white feathers which flow gracefully from their backs. The demand by commercial interests for these feathers nearly wiped out the species.

Those who killed the birds on the nesting grounds, the plume-hunters, were able to exact a high price for their spoils. In fashionable circles the world over, the "aigrettes" were considered in high style. They were dyed different colors and arranged in a variety of designs to satisfy the tastes of the period.

As the birds became scarcer, the prices escalated, and the hunters increased their efforts, destroying even the more isolated colonies. The plumes are present only in the breeding season, so large numbers of birds were vulnerable at one site, and the young were left to starve in the nest.

The feather trade flourished from about 1880 through the next few decades. But egret "scalps" were sought long before that. In 1811, Alexander Wilson wrote in his *American Ornithology*:

"The long plumes of these birds have at various periods been in great request, on the continent of Europe, particularly in France and Italy, for the purpose of ornamenting the female headdress. When dyed various

colors and tastefully fashioned, they form a light and elegant duster and mosquito brush. The Indians prize them for ornamenting their hair or topknot; and I have observed these people wandering through the market place of New Orleans, with bunches of these feathers for sale."

By the 1920's the once-great flocks of these birds were reduced to a pitiful remnant. And only a few rookeries remained, deep in southern swamps and carefully protected by Audubon wardens. Yet even then, tourists in Miami and Palm Beach were paying up to \$15 each for a single egret scalp. Plume hunting continued, though it was illegal by this time. Two Audubon wardens were murdered by outlaws in the feather trade.

T. Gilbert Pearson, who founded the National Association of Audubon Societies, wrote in 1917 that "it is debatable whether the egret can be saved. Without the efforts of the Audubon Society, the bird would surely have disappeared entirely by this time."

That was more than 60 years ago. Protective legislation, combined with a vigorous education program (along with changed tastes in high fashion) have helped the egret recover. It has now reclaimed all of its former breeding territory and has even spread north into the Canadian provinces. Recent nesting has been reported from southeastern Manitoba, Saskatchewan and even Newfoundland. Possibly the latter localities indicate a range extension beyond that of former days. Audubon wrote that it nested as far north as New Jersey, and Wilson, two decades earlier, conjectured that it reached as far as New York during the breeding season.

The dramatic recovery of the great

egret is apparent when one considers its history in Virginia. William Palmer, an early naturalist at the Smithsonian in Washington, D.C., records them as nesting on the grounds of the Arlington National Cemetery in the 1800's, but by the time Coues and Prentiss wrote (*Avifauna Columbiana*, 1883), the egret was considered "rare and irregular during the late summer months." There is no record at all of the great egret along the Potomac from 1894 to 1912. Since that date they began to appear each year, but only as late season, post-breeding wanderers. Bailey, writing in his *Birds of Virginia* (1913), stated that a colony remained deep in the swamps of the Chickahominy. However, it was not until the late 1950's that the egret began to nest regularly in Virginia. Dr. J.J. Murray, in his *Checklist of Virginia Birds* (1952) still considered the egret a "post-breeding visitor, having greatly increased in the past 20 years." By 1958, colonies had been established on the Barrier Islands of the Eastern Shore, and they have prospered and increased ever since.

At present the great egret is a well established breeding bird in Tidewater Virginia. The largest colonies are on the lower Potomac and Chesapeake Bay, and on the coastal islands. Inland, a few pairs nest in company with great blue herons.

After nesting, the birds disperse, wandering inland and northward in search of good feeding ground. It is during this period, from July through September, that they visit the rivers and streams of the Piedmont. Fewer reach the mountain streams and valleys. And each fall several remain into the cold months, remaining through the winter if the weather is mild enough. □

by John W. Taylor

